Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A polysaccharide-protein conjugate or oligosaccharide-protein conjugate comprising an N-propionated polysaccharide or N-propionated oligosaccharide directly ~~conjugated~~ coupled to a protein [[~~at the~~]] through β-position sites of one or more [[~~the~~]] propionate ~~moiety~~ moieties of the N-propionated polysaccharide or N-propionated oligosaccharide; wherein the N-propionated polysaccharide or N-propionated oligosaccharide directly coupled to the protein elicits protective antibodies reactive with the N-propionated polysaccharide or N-propionated oligosaccharide; wherein the N-propionated polysaccharide or N-propionated oligosaccharide is de-N-acetylated and N-acryloylated; wherein at least 50% of the N-propionated polysaccharide or oligosaccharide is de-N-acetylated; and wherein the protein is a bacterial protein or a synthetic protein containing lysine or cysteine residues.

2. (Cancelled)

3. (Currently Amended) ~~A polysaccharide protein conjugate or oligosaccharide protein conjugate~~ The conjugate according to claim 1 wherein the polysaccharide or oligosaccharide is ~~derived~~ obtained from bacteria, yeast, cancer cells, or is chemically ~~synthesis~~synthesized.

4. (Currently amended) ~~A polysaccharide protein conjugate or oligosaccharide protein conjugate~~ The conjugate according to claim 1 wherein the polysaccharide or oligosaccharide is ~~derived~~obtained from *Escherichia coli*, Meningococcus, Pneumococcus, Streptococcus, ~~Haemophilus~~, Neisseria, Salmonella, Klebsiella, or Pseudomonas.

5. (Currently Amended) ~~A polysaccharide protein conjugate or oligosaccharide protein conjugate~~ The conjugate according to claim 1 wherein the polysaccharide or oligosaccharide is ~~derived~~ obtained from Group B *Streptococcus* selected from the group consisting of [[~~sero~~]]type Ia, [[~~sero~~]]type Ib, [[~~sero~~]]type II, [[~~sero~~]]type III, [[~~sero~~]]type V, [[~~sero~~]]type VIII, and combinations thereof.

6. (Currently amended) ~~A polysaccharide protein conjugate or oligosaccharide protein~~ The conjugate according to claim 4 wherein the polysaccharide or oligosaccharide is derived from a Meningococcus group selected from the group consisting of group B, group C, group Y, group W135, and combinations thereof.

7. (Currently amended) ~~A polysaccharide protein conjugate or oligosaccharide protein~~ The conjugate according to claim 4 wherein the polysaccharide or oligosaccharide is derived from *E. coli* K1, *E. coli* K92, Pneumococcus type 4, Pneumococcus type 14, Streptococcus group A, Streptococcus group C, or combinations thereof.

8. (Currently Amended) ~~A polysaccharide protein conjugate or oligosaccharide protein conjugate~~ The conjugate according to claim 1 wherein the protein is selected from the group consisting of tetanus toxoid, diphtheria toxoid, a *Neisseria meningitidis* outer membrane protein, pneumolysoid, C-β protein from group B *Streptococcus* and non-IgA-binding C-β protein from group B *Streptococcus*.

9. (Currently Amended) The ~~polysaccharide protein conjugate or oligosaccharide protein~~ conjugate according to claim 8 wherein the protein is recombinantly produced.

10. (Currently Amended) The ~~polysaccharide protein conjugate or oligosaccharide protein~~ conjugate according to claim 9 wherein the protein is recombinant *N. meningitidis* outer membrane protein.

11. (Currently Amended) ~~A polysaccharide protein conjugate or oligosaccharide protein~~ The conjugate according to claim 1 wherein the polysaccharide or oligosaccharide comprises a glycosaminoglycan.

12. (Currently Amended) ~~A polysaccharide protein conjugate or oligosaccharide protein~~ The conjugate according to claim 1 wherein the polysaccharide or oligosaccharide comprises glycosyl residues of a structural repeating unit having at least one free amino group or N-acyl group.

13. (Currently Amended) ~~A polysaccharide protein conjugate or oligosaccharide protein~~ The conjugate according to claim 12 wherein the glycosyl residue is selected from the group consisting of glucosamine, galactosamine, mannosamine, fucosamine and sialic acid.

14. (Currently Amended) The ~~polysaccharide protein conjugate or oligosaccharide protein~~ conjugate according to claim 1 wherein the N-propionated polysaccharide or N-propionated oligosaccharide is directly coupled to an ε-free amino group of a lysine residue or a thiol group of a cysteine residue of the protein.

15. (Currently Amended) ~~A polysaccharide protein conjugate comprising N-propionated *Streptococcus pneumoniae* type 14 polysaccharide tetanus toxoid conjugate, N-propionated~~ The conjugate according to claim 1 wherein the polysaccharide or oligosaccharide is obtained

from Group B *Streptococcus* type III ~~polysaccharide-tetanus toxoid conjugate, N-propionated Group B Streptococcus type II polysaccharide-tetanus toxoid conjugate, N-propionated *E. coli* K1 polysaccharide-protein conjugate, or N-propionated meningococcal C polysaccharide~~, and wherein the protein is tetanus toxoid~~-conjugate~~.

16. (Currently amended) A polysaccharide-protein conjugate or oligosaccharide-protein conjugate comprising an N-propionated polysaccharide or N-propionated oligosaccharide directly coupled to a protein through β-position sites of one or more propionate moieties of the N-propionated polysaccharide or N-propionated oligosaccharide; wherein the conjugate elicits protective antibodies reactive with the N-propionated polysaccharide or N-propionated oligosaccharide, wherein said conjugate is produced by a method comprising:

A) de-N-acetylating an isolated polysaccharide or oligosaccharide using a de-N-acetylating reagent to form a de-N-acetylated polysaccharide or a de-N-acetylated oligosaccharide, wherein at least 50% of the N-propionated polysaccharide or N-propionated oligosaccharide is de-N-acetylated;

B) N-acryloylating the de-N-acetylated polysaccharide or the de-N-acetylated oligosaccharide with an acryloylating reagent to form an N-propionated polysaccharide or an N-propionated oligosaccharide, and

C) directly ~~conjugating~~ coupling through β-position sites of one or more propionate moieties of the N-propionated polysaccharide or [[~~an~~]]the N-propionated oligosaccharide to a bacterial protein or a synthetic protein containing lysine or cysteine residues to form the polysaccharide-protein conjugate or the oligosaccharide-protein conjugate.

17. (Currently amended) The ~~polysaccharide-protein conjugate or oligosaccharide-protein~~ conjugate according to claim 16 wherein the polysaccharide or oligosaccharide is ~~derived~~ obtained from bacteria, yeast, [[~~or~~]] cancer cells or is chemically ~~synthesis~~ synthesized.

18. (Currently amended) The ~~polysaccharide-protein conjugate or oligosaccharide-protein~~ conjugate [[~~of~~]] according to claim 16 wherein the ~~conjugation~~ coupling is conducted at a pH of about 7.0.

19. (Currently amended) The ~~polysaccharide-protein conjugate or oligosaccharide-protein~~ conjugate [[~~of~~]] according to claim 16 wherein the ~~conjugation~~ coupling is conducted at a pH above 9.

20. (Currently amended) The ~~polysaccharide-protein conjugate or oligosaccharide-protein~~ conjugate [[~~of~~]] according to claim 16 wherein the ~~conjugation~~ coupling is conducted in a reagent selected from the group consisting of phosphate buffer, ~~carbonate/~~bicarbonate buffer, and borate buffer.

21. (Currently amended) The ~~polysaccharide-protein conjugate or oligosaccharide-protein~~ conjugate [[~~of~~]] according to claim 16 wherein the de-N-acetylating reagent is a base or an enzyme and the acryloylating reagent is selected from the group consisting of N-acryloyl chloride, acryloyl anhydride, acrylic acid and a dehydrating agent.

22. (Currently amended) A pharmaceutical composition comprising the ~~polysaccharide-protein conjugate or oligosaccharide protein~~ conjugate according to any one of claim 1 [[~~or~~]]and claim 16 and a pharmaceutically acceptable carrier.

23. (Original) The pharmaceutical composition according to claim 22 further comprising an adjuvant.

24. (Original) The pharmaceutical composition according to claim 23 wherein the adjuvant is selected from the group consisting of alum and stearyl tyrosine.

25. (Currently amended) The pharmaceutical composition according to claim 22 further comprising a second immunogenic component, said second immunogenic component selected from the group of immunogens consisting of diphtheria-tetanus-pertussis (DTP), diphtheria-tetanus-acellular pertussis (DTaP), tetanus-diphtheria (Td), diphtheria-tetanus-acellular pertussis-*Haemophilus influenzae type B* (DTaP-Hib), diphtheria-tetanus-acellular pertussis-inactivated poliovirus-*Haemophilus influenzae type B* (DTaP-IPV-Hib), and combinations thereof.

26. (Currently Amended) An immunogen comprising the ~~polysaccharide-protein conjugate or oligosaccharide-protein conjugate~~ conjugates according to any one of claim 1 [[~~or~~]]and claim 16, said immunogen elicits an N-propionated polysaccharide-specific or an N-propionated oligosaccharide-specific immune response.

27. (Currently Amended) The immunogen according to claim 26, wherein the immune response is generation of an N-propionated polysaccharide-specific or an N-propionated oligosaccharide-specific immunoglobulin.

28. (Original) The immunogen according to claim 27 wherein the immunoglobulin is IgG, IgM, IgA or combinations thereof.

29. (Original) A method of making a ß-propionamido-linked polysaccharide-protein conjugate or a ß-propionamido-linked oligosaccharide-protein conjugate comprising:

A) de-N-acetylating a polysaccharide or an oligosaccharide using a de-N-acetylating reagent to form a de-N-acetylated polysaccharide or de-N-acetylated oligosaccharide,

B) N-acryloylating the de-N-acetylated polysaccharide or de-N-acetylated oligosaccharide with an acryloylating reagent to form a ß-propionated polysaccharide or a β-propionated oligosaccharide, and

C) directly conjugating the ß-propionated polysaccharide or the ß-propionamido oligosaccharide to a protein to form the ß-propionamido-linked polysaccharide-protein or ß-propionamido-linked oligosaccharide-protein conjugate conjugate.

30. (Original) The method of claim 29, wherein the de-N-acetylating reagent is a base or enzyme.

31. (Original) The method of claim 29 wherein the de-N-acetylating reagent is selected from the group consisting of NaOH, KOH and KiOH.

32. (Original) The method of claim 29, wherein the acryloylating reagent is selected from the group consisting of acryloyl chloride, acryloyl anhydride, acrylic acid and a dehydrating agent.

33. (Currently amended) The method of claim 29, wherein the polysaccharide or oligosaccharide is ~~derived~~ obtained from bacteria, yeast, cancer cells or is chemically ~~synthesis~~synthesized.

34. (Currently amended) The method of claim 29 wherein the polysaccharide or oligosaccharide is ~~derived~~ obtained from *Escherichia coli*, Meningococcus, Pneumococcus, Streptococcus, ~~Haemophilus~~, Neisseria, Salmonella, Klebsiella, or Pseudomonas.

35. (Currently amended) The method of claim 29 wherein the protein is selected from the group consisting of tetanus toxoid, diphtheria toxoid, a neisserial outer membrane protein, pneumolysoid, [[~~and~~]] C-β protein from group B Streptococcus and non-IgA binding C-β protein from group B ~~Streptococcus~~ *Streptococcus*.

36. (Currently amended) The method of [[~~C~~]]claim 35, wherein the protein is recombinantly produced.

37. (Currently amended) A vaccine comprising the ~~polysaccharide-protein conjugate or oligosaccharide-protein~~ conjugate according to any one of claim 1 [[~~or~~]]and claim 16, wherein said vaccine provides protective immunity against ~~a disease causing organism or cell~~at least one member of a genus of an organism from which the polysaccharide or oligosaccharide component of the polysaccharide-protein conjugate or oligosaccharide-protein conjugate was obtained.

38. (Currently amended) [[~~A~~]]The vaccine according to claim 37 wherein the ~~disease causing~~ organism ~~or cell~~ is selected from the group consisting of bacteria[[~~,~~]]and yeast, and cancer cell.

39. (Currently Amended) [[~~A~~]]The vaccine according to claim 38 wherein the bacteria [[is]] are selected from the group consisting of *Escherichia coli*, Meningococcus, Pneumococcus, Streptococcus, ~~Haemophilus~~, Neisseria, Salmonella, Klebsiella, and Pseudomonas.

40. (Currently amended) The vaccine according to claim 37 further comprising a second immunogen in combination with the ~~polysaccharide~~polysaccharide-protein conjugate or oligosaccharide-protein conjugate, said second immunogen selected from the group consisting of diphtheria-tetanus-pertussis (DTP), diphtheria-tetanus-acellular pertussis (DTaP), tetanus-diphtheria (Td), diphtheria-tetanus-acellular pertussis-*Haemophilus influenzae type B* (DTaP-Hib), diphtheria-tetanus-acellular pertussis-inactivated poliovirus-*Haemophilus influenzae type B* (DTaP-IPV-Hib), and combinations thereof.

41. (Original) A method of immunizing a mammal against a disease causing organism or disease causing cell comprising administering to the mammal an immunizing amount of the vaccine according to claim 37.

42. (Original) A method of immunizing a mammal against *Streptococcus pneumoniae* comprising administering to the mammal an immunizing amount of the vaccine according to claim 37.

43. (Original) A method of immunizing a mammal against Group B Streptococcus comprising administering to the mammal an immunizing amount of the vaccine according to claim 37.

44. (Original) A method of immunizing a mammal against Group B *Neisseria meningitidis* comprising administering to the mammal an immunizing amount of the vaccine according to claim 37.

45. (Original) A method of immunizing a mammal against Group C *Neisseria meningitidis* comprising administering to the mammal an immunizing amount of the vaccine according to claim 37.

46. (Original) A method of immunizing a mammal against *Haemophilus influenzae* type B comprising administering to the mammal an immunizing amount of the vaccine according to claim 37.

47. (Currently amended) A method of eliciting an antibody response to a polysaccharide or an oligosaccharide in a mammal comprising administering [[~~of~~]] an effective amount of the ~~polysaccharide-protein conjugate or oligosaccharide-protein~~ conjugate ~~of~~ according to any one of claim 1 [[~~or~~]]and 16.

48. (Original) An immunoglobulin or antigen-binding fragment thereof produced according to the method of claim 47.

49. (Original) The immunoglobulin according to claim 48, selected from the group consisting of IgG antibody, IgM antibody, IgA antibody and combinations thereof.

50. (Original) The immunoglobulin according to claim 49, wherein the antibody is an isolated IgG.

51. (Currently amended) An isolated antibody or antigen binding fragment thereof elicited in response to the ß-propionamido-linked polysaccharide-protein conjugate or ß-propionamido-linked oligosaccharide-protein conjugate according to any one of claim 1 and 16, said antibody or antigen fragment thereof specifically immunoreactive with N-propionated polysaccharide or N-propionated oligosaccharide and immunoreactive with a

native N-acetylated polysaccharide from which the ß-propionated polysaccharide or β-propionated oligosaccharide was obtained~~derived~~.

52. (Currently amended) The antibody or antigen binding fragment thereof according to claim 51 wherein the native N-acetylated polysaccharide is obtained from~~a component of~~ bacteria, yeast, [[or]] cancer cells, or is chemically synthesized.

53. (Currently amended) The antibody or antigen binding fragment thereof according a claim 52 wherein the polysaccharide is ~~derived~~ obtained from *Escherichia coli,* Meningococcus, Pneumococcus, Streptococcus, ~~Haemophilus~~, Neisseria, Salmonella, Klebsiella, or Pseudomonas.

54. (Original) The antibody or antigen binding fragment thereof according to claim 51 wherein the antibody is recombinantly produced.

55. (Currently amended) A method of passive immunization against a disease causing organism or disease causing cells comprising administration of an effective amount of the immunoglobulin or antibody according to claim 48[[~~or 51~~]], said amount is sufficient to inhibit or kill the disease causing organism or disease causing cells.

56. (Original) The method of passive immunization according to claim 55 wherein the immunoglobulin is an isolated IgG antibody or antigen binding fragment thereof.

57. (Original) The method of passive immunization according to claim 55 wherein the immunoglobulin is an isolated IgM antibody or antigen binding fragment thereof.

58. (Currently amended) The method of passive immunization according to claim 55 ~~whrein~~wherein the immunoglobulin is an isolated IgA antibody or antigen binding fragment thereof.

59. (New) The conjugate according to claim 1, wherein the de-N-acetylated polysaccharide or de-N-acetylated oligosaccharide is at least 95% N-acryloylated.

60. (New) The conjugate according to claim 16, wherein the de-N-acetylated polysaccharide or the de-N-acetylated oligosaccharide is at least 95% N-acryloylated.

61. (New) The conjugate according to any one of claim 1 and claim 16, wherein the bacterial protein is selected from the group consisting of tetanus toxoid, diphtheria toxoid, cholera toxin subunit B, *Neisseria meningitidis* outer membrane proteins, pneumolysoid, C-β protein from group B Streptococcus, *Pseudomonas aeruginosa* toxoid, and pertussis toxoid.

62. (New) A method of passive immunization against a disease causing organism or disease causing cells comprising administration of an effective amount of the immunoglobulin or antibody according to claim 51, said amount is sufficient to inhibit or kill the disease causing organism or disease causing cells.

63. (New) The method of passive immunization according to claim 62 wherein the immunoglobulin is an isolated IgG antibody or antigen binding fragment thereof.

64. (New) The method of passive immunization according to claim 62 wherein the immunoglobulin is an isolated IgM antibody or antigen binding fragment thereof.

65. (New) The method of passive immunization according to claim 62 wherein the immunoglobulin is an isolated IgA antibody or antigen binding fragment thereof.